REMARKS

Claims 41, 42, 44-48, 50-87, 91 and 92 are pending, wherein claims 41, 44, 50, 59, 65, 72, 73, 77, 78, 81, 82 and 86 have been amended, claim 49 was cancelled, and new claims 91 and 92 were added. Reconsideration and allowance for the above-identified application are now respectfully requested in view of the foregoing amendments and the following remarks.

The claims as now presented claim more narrowly tailored ranges of the dental bleaching agent so that the claims are now commensurate in scope with the unexpected results shown by the comparative testing. Whereas claiming a dental bleaching composition in a range of about 0.5% to about 50% went significantly beyond the tested values of 10.5% and 15%, a range of about 3% to about 30% is sufficiently centered around the tested values as to permit reasonable extrapolation of the unexpected results. A dental bleaching composition that includes 0.5% bleaching agent may not be expected to bleach teeth within the time parameters set forth in the comparative testing, let alone cause tooth and mouth sensitivity. Conversely, a dental bleaching composition that includes 50% bleaching agent may be expected to cause sensitivity with or without a desensitizing agent due to the extremely high quantity of bleaching agent. It would, however, be reasonable for the unexpected results shown in the comparative testing to apply to a dental bleaching composition that included as little as about 3%, and as much as about 30%, dental bleaching agent, as well as concentrations between these values. This is also true for the even more narrowly tailored bleaching agent concentration ranges of about 3% to about 20%, and especially about 10% to about 20%, recited in the claims as now presented.

The current Office Action and also past office actions acknowledged that the comparative test data demonstrated unexpected results for dental compositions that include potassium nitrate in a range of about 0.01% to about 2% in combination with 10% and 15% dental bleaching agent. For the same reason that the unexpected results from the comparative test, which utilized 0.5% potassium nitrate, could be reasonably extrapolated over the narrowly tailored range of potassium nitrate of about 0.01% to about 2%, the unexpected results when using 10.5% and 15% bleaching agent can also be reasonable extrapolated to dental bleaching compositions within a narrowly tailored range of about 3% to about 30%. Support for the lower limit of about 3% and the upper limit of about 30% is found in the Application at page 28, lines 21-22. Support for claiming a dental bleaching agent in a range of about 10% to about 20% is found in the comparative test, which utilized compositions having 10.5% and 15% bleaching agent,

coupled with the explicit disclosure of about 20% as an upper endpoint set forth at page 18, line 22.

Because the claims as now presented claim dental bleaching compositions (or the use thereof) which are believed to be commensurate in scope with the unexpected results shown by the comparative study, Applicants submit they are not obvious over the *claims* of U.S. Patent No. 6,306,370. The Office Action acknowledged that the claims as previously presented were not obvious over the *claims* of U.S. Patent No. 6,309,625. Accordingly, because the instant claims have only been narrowed by this amendment, the claims as now presented remain unobvious over the *claims* of U.S. Patent No. 6,309,625.

The claims as now amended are also believed to be patentable over U.S. Patent No. 6,108,850 to McLaughlin, either alone or in combination with U.S. Patent No. 5,626,837 to Shimada et al. Applicants note that claim 86 as previously presented was not rejected as being anticipated or obvious over any prior art reference. Claim 41 as now presented includes the combination of elements that were found by the Office Action to distinguish over McLaughlin, Shimada et al. and the other art of record. More particularly, claim 41 as amended claims a dental bleaching composition for bleaching and desensitizing a person's teeth, comprising a dental bleaching agent in an amount in a range of about 3% to about 30% by weight of the dental bleaching composition so as to have a tooth bleaching effect when contacted with a person's teeth, said dental bleaching agent comprising at least one peroxide, potassium nitrate in a range of about 0.01% to about 2% by weight of the dental bleaching composition so as to result in reduced tooth sensitivity that may be caused by said dental bleaching agent in the absence of said potassium nitrate when the dental bleaching composition is contacted with a person's teeth for a time sufficient to bleach teeth, and a carrier into which said dental bleaching agent and potassium nitrate are dispersed, the carrier comprising a solvent and a tackifying agent.

It is not even alleged in the Office Action that McLaughlin and/or Shimada et al. disclose or suggest the combination of elements recited in claim 86 as previously presented (and claim 41 as now amended). For example, Example 4 of McLaughlin discloses a toothpaste composition that contains hydrogen peroxide and potassium, but no identifiable solvent or tackifying agent. No reasonable combination of McLaughlin and Shimada et al., without the aid of improper hindsight, using the present application as a template, suggests the combination of elements recited in claim 41 as amended. Accordingly, Applicants submit that claim 41 as amended is patentable over the art of record.

Claims 42, 44-48, 50-87, 91 and 92 are likewise patentable over the art of record for the reasons given above relative to claim 41. In addition, they recite additional elements that may further distinguish over the art of record. For example, claims 46, 61 and 65 require potassium nitrate in a concentration of about 0.5% by weight of the dental bleaching composition. Neither McLaughlin nor Shimada et al. teaches or suggests a dental bleaching composition that includes "about 0.5% potassium nitrate" in combination with the other recited elements.

Claims 55, 64 and 69 claim a dental bleaching composition that is free of abrasives. In contrast, Example 4 of McLaughlin, relied upon in rejecting the claims, includes 83.5% of a "paste carrier". Col. 7, line 14. This is consistent with the teaching in McLaughlin that potassium nitrate can be used in "toothpaste". Col. 4, lines 9-12. The term "toothpaste" has a well known meaning in the art and denotes an abrasive composition used to clean teeth while brushing. Examples of abrasives that can be used in the toothpaste compositions of McLaughlin are set forth at col. 3, lines 38-49. McLaughlin neither teaches nor suggests a dental bleaching composition that includes a dental bleaching agent in the claimed amount, potassium nitrate in the claimed amount, and a carrier that includes a solvent and a tackifying agent to yield a dental bleaching composition that is also "free of abrasives".

Claim 86 as amended further claims a stable, one-part composition. In contrast, McLaughlin discloses a two-part composition that includes a separate "catalyst" component for mixing with an intermediate bleaching compound. Col. 1, line 51 – col. 2, line 5. Claim 86 also claims a composition that is sticky and viscous by virtue of including a sticky, viscous carrier into which the bleaching agent and potassium nitrate are dispersed. There is no indication that Example 4 of McLaughlin is a sticky, viscous composition that could be used to adhere a dental bleaching tray to a person's teeth. No such adhesiveness is disclosed anywhere in McLaughlin, let alone in connection with Example 4, the only relevant disclosure regarding the use of 1% potassium nitrate.

Claims 72-85 further recite specific method steps that are neither taught nor suggested by McLaughlin. Applicants note that method claims 77-85 were not rejected as being anticipated or obvious over any prior art reference. Independent claim 72 as now presented includes the combination of elements that were found by the Office Action to distinguish over McLaughlin, Shimada et al. and the other art of record. More particularly, claim 72 as amended claims a method for bleaching and desensitizing a person's teeth, comprising providing a dental bleaching composition comprising: a dental bleaching agent in an amount in a range of about 3% to about

30% by weight of the dental bleaching composition so as to have a tooth bleaching effect when contacted with a person's teeth, said dental bleaching agent comprising at least one peroxide; potassium nitrate in a range of about 0.01% to about 2% by weight of the dental bleaching composition so as to result in reduced tooth sensitivity that may be caused by said dental bleaching agent in the absence of said potassium nitrate when the dental bleaching composition is contacted with a person's teeth for a time sufficient to bleach teeth; and a carrier into which said dental bleaching agent and potassium nitrate are dispersed, the carrier comprising a solvent and a tackifying agent; and contacting the person's teeth with said dental bleaching composition without scrubbing or brushing for a time sufficient to bleach teeth, said potassium nitrate reducing tooth sensitivity that may be caused by said dental bleaching agent in the absence of said potassium nitrate.

Claim 72 as amended claims the use of a dental bleaching composition that includes the combination of limitations recited in claim 86 as previously presented. In addition, claim 72 as amended recites "contacting the person's teeth with said dental bleaching composition for at least about 15 minutes *without scrubbing or brushing*" as recited in claim 77 as previously presented. Accordingly, claim 72 as amended now recites a combination of elements that were previously found to distinguish over the art of record.

Claims 73-76 are likewise patentable over the art of record for the reasons given above relative to claim 72. In addition, they recite additional elements that may further distinguish over the art of record. For example, claim 73 recites the steps of introducing a quantity of dental bleaching composition into a dental tray and placing the dental tray over the person's teeth in order for the dental bleaching composition to contact the person's teeth for the time sufficient to bleach teeth, *the dental bleaching composition helping to adhere the dental tray to the person's teeth* (*e.g.*, as a result of including a sufficient quantity of tackifying agent as taught in the application).

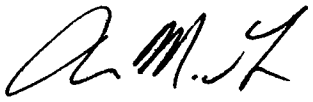
The time durations set forth in claims 74-76 ensure more complete bleaching and are consistent with the use of a dental bleaching composition in the manner taught in the present application. In contrast, it would be unreasonable to apply the toothpaste composition of Example 4 of McLaughlin to a person's teeth for longer than it would take to brush a person's teeth and then rinse. There is no teaching or suggestion for brushing one's teeth for at least about 15 minutes, 30 minutes or 2 hours as recited in claims 74-76. Moreover, it would be

deleterious to one's enamel to brush for such extended periods of time, thus leading away from the claimed time durations recited in claims 74-76.

In the event the Examiner finds any remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview or which may be overcome by Examiner amendment, the Examiner is requested to contact the undersigned attorney.

Dated this 8th day of May 2008.

Respectfully submitted,



JOHN M. GUYNN
Registration No. 36,153
WORKMAN NYDEGGER
Attorney for Applicants
Customer No. 022913

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